

# Science Brief



## Restoring the Beneficial Role of Fire

*In dry western forests, fire clears debris and maintains a resilient vegetation structure. Incorporating regular prescribed fire into forest management reduces the risk of severe fire.*

### ➤ **Fire is critical for resilient landscapes**

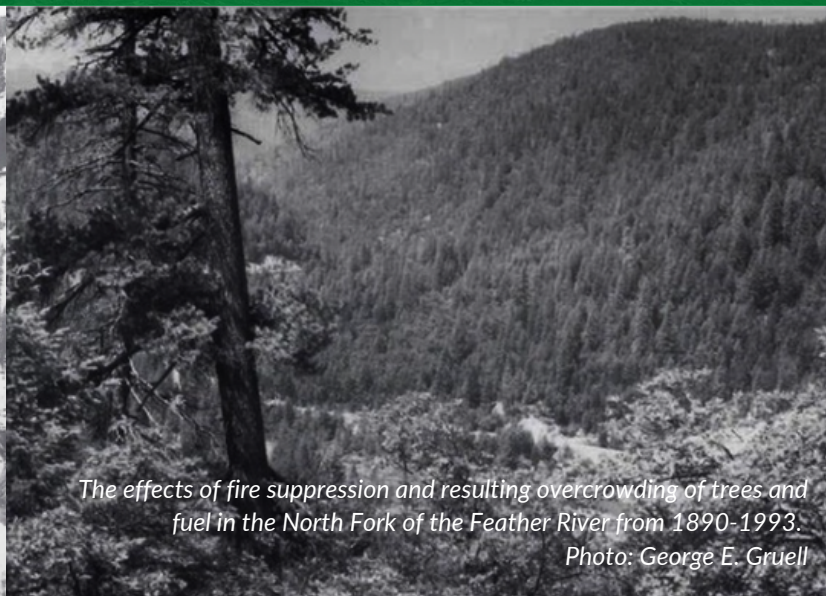
- **Dry Western forests depend on regular low-heat fires to remove debris** like dropped branches and overcrowding trees.<sup>1,2</sup>
- Low-heat fires prevent fuel build-up, create spacing for sunlight and snowpack, and open seeds of fire-dependent species.<sup>3</sup>
- Mature trees are adapted to survive and benefit from low-burning fires.<sup>4</sup>

### ➤ **Why have there been so many catastrophic fires lately?**

- Fire suppression removes fire from the ecosystem, interrupting this ecological maintenance process and increasing the volume and density of fuels across Western forests.<sup>5,6,7</sup>
- **Fire suppression has left forests vulnerable to the impacts of climate change.**

### ➤ **Indigenous fire management & cultural burning practices**

- **Indigenous communities have practiced cultural burning for thousands of years.** Promoting indigenous burning and management sovereignty is an important aspect of fire ecology and restoration today.<sup>10</sup>
- Fire as a management tool improves native food sources and hunting space, cultivates specific plant species, prevents fuel build-up, maintains travel routes, communication, ceremonies, and fireproofed important areas.<sup>11</sup>
- The displacement of native tribes and settler-imposed fire suppression policies disrupted and largely prevented indigenous land management.<sup>12</sup> The scars of native land dispossession persist today, and the reintroduction of fire and indigenous land management contributes to forest resilience.<sup>10,11,12</sup>



*The effects of fire suppression and resulting overcrowding of trees and fuel in the North Fork of the Feather River from 1890-1993.  
Photo: George E. Gruell*

## ➤ Active management solutions

- Building resilience after fire suppression requires prescribed fire and specific treatments such as thinning that mimic the effects of beneficial fire.<sup>13</sup>
- Restoration treatments remove and reduce understory fuels while protecting mature trees.<sup>6,7</sup>
- Such activities change and thin the vegetation structure to prevent future fires from burning too hot or growing too large.

## ➤ Benefits of fire regime restoration

- The structure of restored forests promotes fire resilience, biodiversity, greater snowpack storage, and habitat for native species.
- Reduced fire risk protects nearby communities and infrastructure, and public health.
- Thinning greatly reduces the risk of catastrophic wildfire.

**The benefits of regular low-moderate fires are unique to each forested region.**

Reach out to learn about the benefits for a specific forest at [connect@blueforest.org](mailto:connect@blueforest.org)



Photo: Annapurna Holtzapfle